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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,662	08/25/2006	Tatsuhisa Yokoi	960/217	2134
23838	7590	01/24/2008		
KENYON & KENYON LLP 1500 K STREET N.W. SUITE 700 WASHINGTON, DC 20005			EXAMINER TRAN, BINH Q	
			ART UNIT 3748	PAPER NUMBER
			MAIL DATE 01/24/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/590,662

**Applicant(s)**

YOKOI ET AL.

**Examiner**

BINH Q. TRAN

**Art Unit**

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>08/25/2006; 10/30/2007</u> | 6) <input type="checkbox"/> Other: ____  |

### DETAILED ACTION

Receipt and entry of Applicant's Preliminary Amendment dated August 25, 2006 is acknowledged.

#### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

***Claims 1-20 are rejected under 35 U.S.C. 102 (e) as being anticipated by Ito et al. (Ito) (Patent Number 6,763,799).***

Regarding claims 1-2, Ito discloses an exhaust purifying apparatus for an internal combustion engine, comprising: an exhaust purifying catalyst (50a) that is located in an exhaust passage of the internal combustion engine (1), wherein exhaust gas passes through the exhaust purifying catalyst; an exhaust purifying member (50b) that is located in a section of the exhaust passage that is downstream of the exhaust purifying catalyst (50a), wherein the exhaust purifying

member traps particulate matter in exhaust gas; a fuel adding device (60) for adding fuel to exhaust gas that passes through the exhaust purifying catalyst and the exhaust purifying member (e.g. See col. 6, lines 14-39); and a setting section, wherein the setting section estimates a combustion rate of particulate matter in the exhaust purifying member in a state where the fuel adding device adds fuel to the exhaust gas, and wherein, based on the estimated combustion rate, the setting section sets a manner of adding fuel by the fuel adding device (e.g. See col. 6, lines 14-67; col. 7, lines 1-67; col. 8, lines 1-10).

Regarding claims 3, Ito further discloses wherein the setting section switches the manner of adding fuel between a continuous fuel addition, in which fuel is continuously added to exhaust gas, and an intermittent fuel addition, in which fuel is intermittently added to exhaust gas (e.g. See col. 6, lines 14-67; col. 7, lines 1-67; col. 8, lines 1-10).

Regarding claims 4, Ito further discloses when it is assumed that the combustion rate of particulate matter is less than a predetermined rate, the setting section sets the manner of adding fuel to the intermittent fuel addition (e.g. See col. 6, lines 14-67; col. 7, lines 1-67; col. 8, lines 1-10).

Regarding claims 5, Ito further discloses during the intermittent fuel addition, the setting section adds fuel to exhaust gas only a predetermined number of times (e.g. See col. 6, lines 14-67; col. 7, lines 1-67; col. 8, lines 1-10).

Regarding claims 6, Ito further discloses when it is assumed that the combustion rate of particulate matter exceeds a predetermined rate, the setting section sets the manner of adding fuel to the continuous fuel addition (e.g. See col. 6, lines 14-67; col. 7, lines 1-67; col. 8, lines 1-10).

Regarding claims 7, Ito further discloses when it is assumed that the combustion rate of particulate matter is less than a predetermined rate, the setting section sets the manner of adding fuel to the intermittent fuel addition, and wherein, when it is assumed that the combustion rate of particulate matter exceeds the predetermined rate, the setting section sets the manner of adding fuel to the continuous fuel addition (e.g. See col. 6, lines 14-67; col. 7, lines 1-67; col. 8, lines 1-10).

Regarding claims 8, Ito further discloses wherein the setting section estimates the combustion rate of particulate matter based on an estimated accumulation amount of particulate matter in the exhaust purifying member (e.g. See col. 6, lines 14-67; col. 7, lines 1-67; col. 8, lines 1-10).

Regarding claims 9, Ito further discloses wherein the combustion rate of particulate matter estimated by the setting section is increased as the estimated accumulation amount becomes greater (e.g. See col. 6, lines 14-67; col. 7, lines 1-67; col. 8, lines 1-10).

Regarding claims 10, Ito further discloses wherein the setting section estimates the combustion rate of particulate matter based on a pressure difference between a section upstream and a section downstream of the exhaust purifying member (e.g. See col. 6, lines 14-67; col. 7, lines 1-67; col. 8, lines 1-10).

Regarding claims 11, Ito further discloses wherein the combustion rate of particulate matter estimated by the setting section is increased as the pressure difference becomes greater (e.g. See col. 6, lines 14-67; col. 7, lines 1-67; col. 8, lines 1-10).

Regarding claims 12, Ito further discloses wherein the setting section estimates the combustion rate of particulate matter based on an estimated accumulation amount of particulate

matter in the exhaust purifying member, and a pressure difference between a section upstream and a section downstream of the exhaust purifying member (e.g. See col. 6, lines 14-67; col. 7, lines 1-67; col. 8, lines 1-10).

Regarding claims 13, Ito further discloses wherein the setting section estimates the combustion rate of particulate matter based on a ratio of a pressure difference between a section upstream and a section downstream of the exhaust purifying member to an intake air amount of the internal combustion engine (e.g. See col. 6, lines 14-67; col. 7, lines 1-67; col. 8, lines 1-10).

Regarding claims 14, Ito further discloses wherein the setting section estimates the combustion rate of particulate matter based on a difference between a temperature of exhaust gas that flows into the exhaust purifying member and a temperature of exhaust gas that has passed through the exhaust purifying member (e.g. See col. 6, lines 14-67; col. 7, lines 1-67; col. 8, lines 1-10).

Regarding claims 15, Ito further discloses wherein the setting section switches the manner of adding fuel between a continuous fuel addition, in which fuel is continuously added to exhaust gas, and an intermittent fuel addition, in which fuel is intermittently added to exhaust gas (e.g. See col. 6, lines 14-67; col. 7, lines 1-67; col. 8, lines 1-10).

Regarding claims 16, Ito further discloses when it is assumed that the combustion rate of particulate matter is less than a predetermined rate, the setting section sets the manner of adding fuel to the intermittent fuel addition (e.g. See col. 6, lines 14-67; col. 7, lines 1-67; col. 8, lines 1-10).

Regarding claims 17, Ito further discloses when it is assumed that the combustion rate of particulate matter exceeds a predetermined rate, the setting section sets the manner of adding fuel to the continuous fuel addition (e.g. See col. 6, lines 14-67; col. 7, lines 1-67; col. 8, lines 1-10).

Regarding claims 18, Ito further discloses when it is assumed that the combustion rate of particulate matter is less than a predetermined rate, the setting section sets the manner of adding fuel to the intermittent fuel addition, and wherein, when it is assumed that the combustion rate of particulate matter exceeds the predetermined rate, the setting section sets the manner of adding fuel to the continuous fuel addition (e.g. See col. 6, lines 14-67; col. 7, lines 1-67; col. 8, lines 1-10).

Regarding claims 19, Ito further discloses wherein the setting section estimates the combustion rate of particulate matter based on an estimated accumulation amount of particulate matter in the exhaust purifying member (e.g. See col. 6, lines 14-67; col. 7, lines 1-67; col. 8, lines 1-10).

Regarding claims 20, Ito further discloses wherein the setting section estimates the combustion rate of particulate matter based on a pressure difference between a section upstream and a section downstream of the exhaust purifying member (e.g. See col. 6, lines 14-67; col. 7, lines 1-67; col. 8, lines 1-10).

#### ***Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of five patents:

Nonoyama et al. (Pat. No. 7251931), Murata et al. (Pat. No. 6672989), Trudell et al. (Pat. No. 7031827), Ohki et al. (Pat. No. 7246485), and Russell (Pat. No. 7055313) all disclose an exhaust gas purification for use with an internal combustion engine.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Binh Tran whose telephone number is (571) 272-4865. The examiner can normally be reached on Monday-Friday from 8:00 a.m. to 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reached on (571) 272-4859. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BT  
January 21, 2008



Binh Q. Tran  
Patent Examiner  
Art Unit 3748